

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: MIURA, et al
Serial No.: Rule 1.53(b) Divisional of U.S. Patent
Application Serial No.08/610,488 filed March 4,
1996
Filed: Herewith
For: SEMICONDUCTOR DEVICE AND PRODUCTION THEREOF
Group of Parent: 2823
Examiner of Parent: T. Dang

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

October 16, 2001

Sir:

Please amend the above-identified application, prior to
examination thereof, as follows:

IN THE SPECIFICATION

Please amend the specification as follows:

Page 1, after the title, insert the following:

--CROSS REFERENCE TO RELATED APPLICATIONS

This application is a Divisional Application of U.S.
Patent Application Serial No.08/610,488 filed March 4, 1996.--

IN THE CLAIMS

Please cancel Claims 1 - 11 and add the following new
Claims 12 - 17:

--12. A process for producing a semiconductor device which comprises forming an element-separating oxide film on a silicon substrate by thermal oxidation, and thereafter carrying out a heat-treatment at a temperature of not lower than 800°C while keeping a surface of the oxide film or silicon substrate in a bare state in an inert atmosphere, followed by formation of a gate oxide film, introduction of impurities, formation of electrodes and wiring, and formation of an insulating film so as to form a transistor,

wherein the oxide film is formed at 850°C and said heat-treatment is carried out at 950°C for 30 minutes, so as to reduce stress in the oxide film to substantially zero, and the thermal oxidation is carried out at least in an atmosphere of a gaseous mixture of hydrogen and oxygen or in an atmosphere of H₂O.

13. A process according to claim 12, wherein the heat-treatment is carried out in an atmosphere of an inert gas selected from nitrogen, hydrogen and argon, or a gaseous mixture of these gases, said gas or gaseous mixture being able to contain 5% or less of oxygen.

14. A process according to claim 12, wherein the oxide film or surface of silicon substrate is kept in a base state during the heat-treatment for stress relaxation.

15. A process for producing a semiconductor device which comprises forming an element-separating oxide film on a silicon substrate by thermal oxidation, and thereafter carrying out a heat-treatment at a temperature of not lower than 800°C while keeping a surface of the oxide film or silicon substrate in a bare state in an inert atmosphere, followed by formation of a gate oxide film, introduction of impurities, formation of electrodes and wiring, and formation of an insulating film so as to form a transistor,

wherein the heat-treatment is carried out while keeping the oxide film or surface of silicon substrate in a bare state after removal of an oxidation-preventing film, and the thermal oxidation is carried out at least in an atmosphere of a gaseous mixture of hydrogen and oxygen or in an atmosphere of H₂O.

16. A process according to claim 15, wherein the heat-treatment is carried out in an atmosphere of an inert gas selected from nitrogen, hydrogen and argon, or a gaseous mixture of these gases, said gas or gaseous mixture being able to contain 5% or less of oxygen.

17. A process according to claim 15, wherein the oxide film or surface of silicon substrate is kept in a base state during the heat-treatment for stress relaxation.--

REMARKS

This application is a Divisional Application of U.S. Patent Application Serial No.08/610,488 filed March 4, 1996, which has been allowed. The specification is amended to include a cross-reference to the prior application.

Claims 1 - 11, which were the original claims in the prior application, are canceled in the present application. New Claims 12 - 17 are added to the application. New Claim 12 contains subject matter of allowed Claim 17 and canceled Claim 8 from the prior application as amended. New Claims 13 is the same as canceled Claim 10 from the prior application, except for depending from new Claim 12. New Claims 14 is the same as canceled Claim 21 from the prior application as amended, except for depending from new Claim 12. New Claim 15 contains subject matter of allowed Claim 20 and canceled Claim 8 from the prior application as amended. New Claims 16 is the same as canceled Claim 10 from the prior application, except for depending from new Claim 15. New Claims 17 is the same as canceled Claim 21 from the prior application as amended, except for depending from new Claim 15.

It is respectfully requested that the above amendments be entered before the calculation of the application fee.

Kindly charge any additional fees due, or credit
overpayment of fees, to Deposit Account No. 01-2135. (File No.
500.34397CV2).

Respectfully submitted,

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